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*DB=JPAB,EPAB,DWPI; PLUR=YES; OP=OR*L11 L10 and phosphate0 L11L10 buerger.in. and (battery or electrochemical or (fuel adj cell))8 L10*DB=USPT; PLUR=YES; OP=OR*L9 L8 and (battery or electrochemical or (fuel adj cell))1 L9L8 buerger.in.53 L8L7 L6 and (battery or electrochemical or (fuel adj cell))2 L7L6 fluorolink and phosphate19 L6L5 fluorolink41 L5*DB=JPAB; PLUR=YES; OP=OR*L4 fluorolink and F100 L4*DB=EPAB; PLUR=YES; OP=OR*L3 fluorolink and F100 L3*DB=DWPI; PLUR=YES; OP=OR*L2 fluorolink and F100 L2*DB=USPT; PLUR=YES; OP=OR*L1 fluorolink and F100 L1

END OF SEARCH HISTORY

## Claims.

1. An electrochemical energy storage device comprising at least two electrodes and an electrolyte, and a carrier material for the electrolyte being disposed between said electrodes, wherein said carrier material comprises a porous material having an inner pore structure in which a perfluorinated polyether phosphate is present.

2. The electrochemical energy storage device of claim 1, wherein the porous material is a porous fluoropolymer.

3. The electrochemical energy storage device of claim 1, wherein the inner pore structure of the porous material is coated at least partly with said perfluorinated polyether phosphate.

④ 4. The electrochemical energy storage device of claim 1, wherein said electrolyte is KOH.

5. The electrochemical energy storage device of claim 1, wherein the porous material is expanded polytetrafluoroethylene.

6. The electrochemical energy storage device of claim 1, wherein the porous material is a PTFE copolymer.

7. The electrochemical energy storage device of claim 1, wherein the carrier material is a composite containing nano-scale ceramic.

8. The electrochemical energy storage device of claim 1, wherein the carrier material is a composite including thermoplastics.

9. The electrochemical energy storage device of claim 1, wherein the porous material has a porosity of more than 50%.

10. The electrochemical energy storage device of claim 1, wherein the porous material has a porosity of more than 70%.

11. The electrochemical energy storage device of claim 1, wherein said electrochemical energy storage device is a capacitor.

12. The electrochemical energy storage device of claim 1, wherein said electrochemical energy storage device is a battery selected from the group consisting of nickel/cadmium high rate, nickel metal hybrid, rechargeable  $\text{MnO}_2$ ,  $\text{Zn} - \text{MnO}_2$ ,  $\text{Zn}/\text{Air}$ , alkaline capacitors and alkaline fuel cells.

⑬ 13. The electrochemical energy storage device of claim 1, wherein said electrochemical energy storage device is an alkaline capacitor.

⑭ 14. The electrochemical energy storage device of claim 1, wherein said electrochemical energy storage device is an alkaline fuel cell.

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L10: Entry 5 of 8

File: DWPI

Sep 18, 1997

DERWENT-ACC-NO: 1997-470845

DERWENT-WEEK: 200114

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TITLE: Sealant material - comprises porous base material and corrosion inhibitor compatible with base material

INVENTOR: BURGER, W; HOLBEIN, R ; RUSCH, H ; WALTER, W ; WIESEMANN, A ; BUERGER, W ; RUESCH, H

## PATENT-ASSIGNEE:

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GORE &amp; ASSOC GMBH W L

BUERGER W

HOLBEIN R

RUESCH H

WALTER W

WIESEMANN A

CODE

GORE

BUERI

HOLBI

RUESI

WALTI

WIESI

PRIORITY-DATA: 1996EP-0103932 (March 13, 1996)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 9733949 A1	September 18, 1997	E	033	C09K003/10
US 6194074 B1	February 27, 2001		000	B32B027/00
AU 9718761 A	October 1, 1997		000	C09K003/10
EP 886674 A1	December 30, 1998	E	000	C09K003/10
JP 11508638 W	July 27, 1999		038	C09K003/10
JP 3102572 B2	October 23, 2000		013	C09K003/10

DESIGNATED-STATES: AL AM AT AU AZ BA BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IL IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN YU AT BE CH DE DK EA ES FI FR GB GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG DE ES FR GB IE IT SE

CITED-DOCUMENTS: 5.Jnl.Ref; DE 4423043 ; EP 303102 ; EP 615779 ; EP 730017 ; JP 3071562 ; JP 61163944 ; JP 6247473 ; JP 8209114 ; SU 872874 ; US 4028324 ; WO 9221715 ; WO 9426960

## APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
WO 9733949A1	February 21, 1997	1997WO-EP00848	
US 6194074B1	February 21, 1997	1997WO-EP00848	
US 6194074B1	March 3, 1999	1999US-0142805	
US 6194074B1		WO 9733949	Based on
AU 9718761A	February 21, 1997	1997AU-0018761	
AU 9718761A		WO 9733949	Based on
EP 886674A1	February 21, 1997	1997EP-0905074	
EP 886674A1	February 21, 1997	1997WO-EP00848	
EP 886674A1		WO 9733949	Based on
JP 11508638W	February 21, 1997	1997JP-0532227	
JP 11508638W	February 21, 1997	1997WO-EP00848	
JP 11508638W		WO 9733949	Based on
JP 3102572B2	February 21, 1997	1997JP-0532227	
JP 3102572B2	February 21, 1997	1997WO-EP00848	
JP 3102572B2		JP 11508638	Previous Publ.
JP 3102572B2		WO 9733949	Based on

INT-CL (IPC): B32 B 27/00; B64 C 1/00; C08 L 27:18; C09 K 3/10; F16 J 15/14

ABSTRACTED-PUB-NO: US 6194074B  
BASIC-ABSTRACT:

Sealant material before use comprises (a) 30-90 wt.% porous base material; (b) 10-70 wt.% corrosion inhibitor compatible with (a).

Also claimed are (i) a method for manufacturing sealant material with anticorrosion properties by applying a fluid of corrosion inhibitor to a base sealant material, and drying the material; (ii) sealant material with anticorrosion properties; and (iii) a system of two plates or a metal plate and a plastic plate which are separated by a sealant made from sealant material.

USE - In transportation vehicles, such as an aircraft in which the described system is incorporated (claimed). The sealant in the form of tapes is also suitable for sealed metal parts on other transportation vehicles susceptible to corrosion, such as those on cars and in trains. The sealant tapes could well be used on stationary objects such as battery fuel cells which are filled with aggressive compounds.

ADVANTAGE - Improved anticorrosion properties. The method of manufacture is cheap and easy compared to known methods.  
ABSTRACTED-PUB-NO:

WO 9733949A  
EQUIVALENT-ABSTRACTS:

Sealant material before use comprises (a) 30-90 wt.% porous base material; (b) 10-70 wt.% corrosion inhibitor compatible with (a).

Also claimed are (i) a method for manufacturing sealant material with anticorrosion properties by applying a fluid of corrosion inhibitor to a base sealant material, and drying the material; (ii) sealant material with anticorrosion properties; and (iii) a system of two plates or a metal plate and a plastic plate which are separated by a sealant made from sealant material.

USE - In transportation vehicles, such as an aircraft in which the described system is incorporated (claimed). The sealant in the form of tapes is also suitable for sealed metal parts on other transportation vehicles susceptible to corrosion, such as those on cars and in trains. The sealant tapes could well be used on stationary objects such as battery fuel cells which are filled with aggressive compounds.

ADVANTAGE - Improved anticorrosion properties. The method of manufacture is cheap and easy compared to known methods.

CHOSEN-DRAWING: Dwg.0/7

TITLE-TERMS: SEAL MATERIAL COMPRISE POROUS BASE MATERIAL CORROSION INHIBIT  
COMPATIBLE BASE MATERIAL

DERWENT-CLASS: A18 A95 E19 G04 M14 P73 Q25 Q65

CPI-CODES: A12-R08; A12-T04; E10-E04L; G04-B02; M14-K;

CHEMICAL-CODES:

Chemical Indexing M3 \*01\*

Fragmentation Code

H4 H401 H481 H8 M210 M211 M212 M213 M214 M215  
M216 M220 M221 M222 M223 M224 M225 M226 M231 M232  
M233 M272 M281 M320 M416 M781 M903 M904 Q020 Q130  
Q337 Q462 Q615 R023  
Specific Compounds  
90128U

#### ENHANCED-POLYMER-INDEXING:

Polymer Index [1.1] 018 ; R00975 G0022 D01 D12 D10 D51 D53 D59 D69 D82 F\* 7A ; H0000 ; S9999  
S1309\*R ; S9999 S1650 S1649 ; P0511 Polymer Index [1.2] 018 ; B9999 B5447 B5414 B5403 B5276 ;  
B9999 B5221 B4740 ; K9745\*R ; K9778 K9745 ; N9999 N7090 N7034 N7023 ; ND01 ; K9574 K9483  
; K9687 K9676 ; Q9999 Q9018 ; N9999 N7147 N7034 N7023 ; N9999 N7045 N7034 N7023 ; N9999  
N7067 N7034 N7023 ; N9999 N7078 N7034 N7023 ; N9999 N6177\*R ; Q9999 Q9223 Q9212 ; Q9999  
Q9289 Q9212 ; Q9999 Q9234 Q9212 Polymer Index [2.1] 018 ; D01 D69 F34 F\* 7A ; M9999 M2391 ;  
M9999 M2062 ; M9999 M2324 ; M9999 M2368 ; M9999 M2460 ; M9999 M2777 ; M9999 M2835 ;  
S9999 S1014\*R ; S9999 S1025 S1014 ; S9999 S1605\*R ; S9999 S1616 S1605 ; S9999 S1627 S1605 ;  
P0964\*R F34 D01 Polymer Index [2.2] 018 ; M9999 M2391 ; M9999 M2062 ; M9999 M2324 ; M9999  
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S9999 S1605\*R ; S9999 S1616 S1605 ; S9999 S1627 S1605 ; P1445\*R F81 Si 4A Polymer Index [2.3]  
018 ; R00806 G0828 G0817 D01 D02 D12 D10 D51 D54 D56 D58 D84 ; M9999 M2391 ; M9999  
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S1014\*R ; S9999 S1025 S1014 ; S9999 S1605\*R ; S9999 S1616 S1605 ; S9999 S1627 S1605 ; H0000 ;  
H0124\*R ; P0328 ; P0339 Polymer Index [2.4] 018 ; R00817 G0475 G0260 G0022 D01 D12 D10 D26  
D51 D53 D58 D83 F12 ; R00806 G0828 G0817 D01 D02 D12 D10 D51 D54 D56 D58 D84 ; M9999  
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S1605 ; H0022 H0011 ; P0328 ; P0088 ; P0124 Polymer Index [2.5] 018 ; R00326 G0044 G0033 G0022  
D01 D02 D12 D10 D51 D53 D58 D82 ; R00964 G0044 G0033 G0022 D01 D02 D12 D10 D51 D53 D58  
D83 ; M9999 M2391 ; M9999 M2062 ; M9999 M2324 ; M9999 M2368 ; M9999 M2460 ; M9999  
M2777 ; M9999 M2835 ; S9999 S1014\*R ; S9999 S1025 S1014 ; S9999 S1605\*R ; S9999 S1616  
S1605 ; S9999 S1627 S1605 ; H0022 H0011 ; P1150 ; P1285 Polymer Index [2.6] 018 ; G0817\*R D01  
D51 D54 ; R00326 G0044 G0033 G0022 D01 D02 D12 D10 D51 D53 D58 D82 ; R00964 G0044  
G0033 G0022 D01 D02 D12 D10 D51 D53 D58 D83 ; M9999 M2391 ; M9999 M2062 ; M9999 M2324  
; M9999 M2368 ; M9999 M2460 ; M9999 M2777 ; M9999 M2835 ; S9999 S1014\*R ; S9999 S1025  
S1014 ; S9999 S1605\*R ; S9999 S1616 S1605 ; S9999 S1627 S1605 ; H0033 H0011 ; H0124\*R ;  
P1309 H0124 ; P1150 Polymer Index [2.7] 018 ; G0055\*R G0044 G0033 G0022 D01 D02 D12 D10  
D51 D53 D84 ; R00326 G0044 G0033 G0022 D01 D02 D12 D10 D51 D53 D58 D82 ; M9999 M2391 ;  
M9999 M2062 ; M9999 M2324 ; M9999 M2368 ; M9999 M2460 ; M9999 M2777 ; M9999 M2835 ;

S9999 S1014\*R ; S9999 S1025 S1014 ; S9999 S1605\*R ; S9999 S1616 S1605 ; S9999 S1627 S1605 ; H0022 H0011 ; P1150 Polymer Index [2.8] 018 ; D01 D11 D10 D69 F\* 7A ; M9999 M2391 ; M9999 M2062 ; M9999 M2324 ; M9999 M2368 ; M9999 M2460 ; M9999 M2777 ; M9999 M2835 ; S9999 S1014\*R ; S9999 S1025 S1014 ; S9999 S1605\*R ; S9999 S1616 S1605 ; S9999 S1627 S1605 ; P0000 Polymer Index [2.9] 018 ; M9999 M2391 ; M9999 M2062 ; M9999 M2324 ; M9999 M2368 ; M9999 M2460 ; M9999 M2777 ; M9999 M2835 ; S9999 S1014\*R ; S9999 S1025 S1014 ; S9999 S1605\*R ; S9999 S1616 S1605 ; S9999 S1627 S1605 ; P0839\*R F41 D01 D63 Polymer Index [2.10] 018 ; Q9999 Q7114\*R ; K9712 K9676 ; B9999 B3009 ; K9734 ; B9999 B4762 B4740 ; N9999 N6780\*R N6655 ; K9949 ; ND01 ; K9574 K9483 ; K9687 K9676 ; Q9999 Q9018 ; N9999 N7147 N7034 N7023 ; N9999 N7045 N7034 N7023 ; N9999 N7067 N7034 N7023 ; N9999 N7078 N7034 N7023 ; N9999 N6177\*R ; Q9999 Q9223 Q9212 ; Q9999 Q9289 Q9212 ; Q9999 Q9234 Q9212 Polymer Index [2.11] 018 ; Si 4A ; P\* 5A ; S\* 6A ; H0157 Polymer Index [2.12] 018 ; R00843 G0760 G0022 D01 D23 D22 D31 D42 D51 D53 D59 D65 D75 D84 F39 E00 E01 ; H0226 Polymer Index [2.13] 018 ; D01 F26\*R ; R01740 G2335 D00 F20 H\* O\* 6A ; D01 F23 ; D01 D02 D11 D10 D50 ; D01 D69 F34 F\* 7A ; A999 A475 ; A999 A771 Polymer Index [3.1] 018 ; D01 D69 F34 F\* 7A ; P0964\*R F34 D01 ; A999 A475 ; A999 A782 ; H0237\*R Polymer Index [3.2] 018 ; B9999 B5094 B4977 B4740

## SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C1997-149673

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L10: Entry 3 of 8

File: DWPI

Apr 1, 1999

DERWENT-ACC-NO: 1999-254837

DERWENT-WEEK: 200174

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TITLE: Electrochemical energy storage deviceINVENTOR: BUERGER, W; HERTEL, P ; WENDL, M

PATENT-ASSIGNEE:

ASSIGNEE

CODE

GORE &amp; ASSOC GMBH W L

GORE

PRIORITY-DATA: 1997DE-1041736 (September 22, 1997)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 9916138 A1	April 1, 1999	E	028	H01M006/18
JP 2001517876 W	October 9, 2001		030	H01G009/058
AU 9894414 A	April 12, 1999		000	
EP 1018176 A1	July 12, 2000	E	000	H01M006/18

DESIGNATED-STATES: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE  
GH HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT  
RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW AT BE CH CY DE DK EA ES FI  
FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW AT BE CH CY DE DK ES FI  
FR GB GR IE IT LI LU MC NL PT SE

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
WO 9916138A1	September 22, 1998	1998WO-EP06032	
JP2001517876W	September 22, 1998	1998WO-EP06032	
JP2001517876W	September 22, 1998	2000JP-0513331	
JP2001517876W		WO 9916138	Based on
AU 9894414A	September 22, 1998	1998AU-0094414	
AU 9894414A		WO 9916138	Based on
EP 1018176A1	September 22, 1998	1998EP-0947543	
EP 1018176A1	September 22, 1998	1998WO-EP06032	
EP 1018176A1		WO 9916138	Based on

INT-CL (IPC): H01 G 9/02; H01 G 9/038; H01 G 9/058; H01 M 2/16; H01 M 6/18; H01 M  
8/02; H01 M 10/04

ABSTRACTED-PUB-NO: WO 9916138A

BASIC-ABSTRACT:

NOVELTY - An electrochemical energy storage device comprises an electrolyte (40) and carrier material (30) between two electrodes (20), the carrier includes a porous material whose inner pore structure contains a perfluorinated surface-active



substance.

DETAILED DESCRIPTION - An electrochemical energy storage device comprises an electrolyte (40) and carrier material (30) between two electrodes (20). The carrier material includes a porous material whose inner pore structure contains a perfluorinated surface-active substance.

USE - In storing electrochemical energy as a capacitor (claimed), accumulator or battery or as a separator or diaphragm in electrolysis or electrodialysis

ADVANTAGE - High capacity is achieved despite small size, the device is reliable, long-life and easily made.

DESCRIPTION OF DRAWING(S) - A cross-section of the device is shown.

Electrodes 20

Carrier 30

Electrolyte 40

CHOSEN-DRAWING: Dwg.1/2

TITLE-TERMS: ELECTROCHEMICAL ENERGY STORAGE DEVICE

DERWENT-CLASS: A14 A85 L03 V01 X16

CPI-CODES: A12-E07B; L03-B03A; L03-E02;

EPI-CODES: V01-B01B3; X16-A02;

ENHANCED-POLYMER-INDEXING:

Polymer Index [1.1] 018 ; D81 D82 D83 D84 ; P0500 F\* 7A Polymer Index [1.2] 018 ; R00975 G0022 D01 D12 D10 D51 D53 D59 D69 D82 F\* 7A ; H0000 ; H0011\*R ; P0511 Polymer Index [1.3] 018 ; D69 ; H0135 H0124 ; P0500 F\* 7A Polymer Index [1.4] 018 ; ND01 ; Q9999 Q7396 Q7330 ; B9999 B5221 B4740 ; Q9999 Q7363 Q7330 ; Q9999 Q7341 Q7330 ; Q9999 Q8060 ; Q9999 Q8026 Q7987

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C1999-074577

Non-CPI Secondary Accession Numbers: N1999-189716